

## Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID: SSSPTA1600LXD

PASSWORD:

TERMINAL (ENTER 1, 2, 3, OR ?):2

Enter NEWS followed by the item number or name to see news on that specific topic.

All use of STN is subject to the provisions of the STN Customer agreement. Please note that this agreement limits use to scientific research. Use for software development or design or implementation of commercial gateways or other similar uses is prohibited and may result in loss of user privileges and other penalties.

FILE 'HOME' ENTERED AT 19:28:48 ON 20 JAN 2004

=> file caplus  
COST IN U.S. DOLLARS  
  
FULL ESTIMATED COST

SINCE FILE ENTRY 0.21	TOTAL SESSION 0.21
-----------------------------	--------------------------

FILE 'CAPLUS' ENTERED AT 19:29:06 ON 20 JAN 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
COPYRIGHT (C) 2004 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 20 Jan 2004 VOL 140 ISS 4  
FILE LAST UPDATED: 19 Jan 2004 (20040119/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

82474 SEPG  
1 SEPGS  
82475 SEPG  
(SEPG OR SEPGS)  
95448 SEPARATING  
(SEPARATING OR SEPG)  
L1 0 POLYMER AND LINKER AND PROTEIN AND ORGANIC SOLVENT AND BOND AND  
SEPARATING  
  
=> s pmma and peg and protein and methanol  
29865 PMMA  
108 PMMAS  
29871 PMMA  
(PMMA OR PMMAS)  
27463 PEG  
992 PEGS  
27889 PEG  
(PEG OR PEGS)  
1584147 PROTEIN  
1089521 PROTEINS  
1834710 PROTEIN  
(PROTEIN OR PROTEINS)  
163034 METHANOL  
653 METHANOLS  
163378 METHANOL  
(METHANOL OR METHANOLS)  
L2 2 PMMA AND PEG AND PROTEIN AND METHANOL

=> d 12 1-2 ibib abs hitrn

L2 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2000:368777 CAPLUS  
DOCUMENT NUMBER: 133:140188  
TITLE: Microencapsulation of **proteins** by rapid  
expansion of supercritical solution with a nonsolvent  
Mishima, Kenji; Matsuyama, Kiyoshi; Tanabe, Daisaku;  
Yamauchi, Satoru; Young, Timothy J.; Johnston, Keith  
P.  
CORPORATE SOURCE: Dept. of Chemical Engineering, Fukuoka University,  
Fukuoka, 814-0180, Japan  
SOURCE: AIChE Journal (2000), 46(4), 857-865  
CODEN: AICEAC; ISSN: 0001-1541  
PUBLISHER: American Institute of Chemical Engineers  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
AB A new method-rapid expansion from supercrit. soln. with a nonsolvent  
(RESS-N)-is reported for forming polymer microparticles contg.  
**proteins** such as lysozyme (from chicken egg white) and lipase  
(from *Pseudomonas cepacia*). A suspension of **protein** in CO<sub>2</sub>  
contg. a cosolvent and dissolved polymer is sprayed through a nozzle to  
atm. pressure. The polymers are **PEG** (PEG4000; MW = 3,000,  
PEG6000; MW = 7,500, PEG20000; MW = 20,000), poly(Me methacrylate) ( **PMMA**; MW = 15,000), poly(L-lactic acid) (PLA; MW = 5,000),  
poly(DL-lactide-co-glycolide) (PGLA; MW = 5,000) and **PEG**  
-poly(propylene glycol) (PPG)-**PEG** triblock copolymer (MW =  
13,000). The solubilities of these polymers in CO<sub>2</sub> increase significantly  
with low-mol.-wt. alcs. as cosolvents. The particles do not tend to  
agglomerate after expansion, since the pure cosolvent is a nonsolvent for  
the polymer. The structure and morphol. of the microcapsules were  
investigated by TEM, SEM, and optical microscopy. The thickness of the  
polymer coating about the **protein**, as well as the mean particle  
diam. and particle-size distribution, could be controlled by changing the

feed compn. of the polymer.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1998:766507 CAPLUS  
DOCUMENT NUMBER: 130:29221  
TITLE: Preparation of solid porous matrixes for pharmaceutical uses  
INVENTOR(S): Unger, Evan C.  
PATENT ASSIGNEE(S): ImaRx Pharmaceutical Corp., USA  
SOURCE: PCT Int. Appl., 139 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 7  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851282	A1	19981119	WO 1998-US9570	19980512
W: AU, BR, CA, CN, JP, KR, NZ				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 2002039594	A1	20020404	US 1998-75477	19980511
AU 9873787	A1	19981208	AU 1998-73787	19980512
EP 983060	A1	20000308	EP 1998-921109	19980512
R: DE, FR, GB, IT, NL				
US 2001018072	A1	20010830	US 2001-828762	20010409
PRIORITY APPLN. INFO.:			US 1997-46379P P	19970513
			US 1998-75477 A	19980511
			WO 1998-US9570 W	19980512

AB A solid porous matrix formed from a surfactant, a solvent, and a bioactive agent is described. Thus, amphotericin nanoparticles were prep'd. by using ZrO<sub>2</sub> beads and a surfactant. The mixt. was milled for 24 h.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s polymer and linker and protein and organic solvent  
931714 POLYMER  
783177 POLYMERS  
1269147 POLYMER  
(POLYMER OR POLYMERS)  
14504 LINKER  
3402 LINKERS  
16439 LINKER  
(LINKER OR LINKERS)  
1584147 PROTEIN  
1089521 PROTEINS  
1834710 PROTEIN  
(PROTEIN OR PROTEINS)  
307065 ORGANIC  
3434 ORGANICS  
309296 ORGANIC  
(ORGANIC OR ORGANICS)  
847319 ORG  
12865 ORGS  
851853 ORG  
(ORG OR ORGS)  
938663 ORGANIC  
(ORGANIC OR ORG)

591784 SOLVENT  
295003 SOLVENTS  
746315 SOLVENT  
(SOLVENT OR SOLVENTS)

125778 ORGANIC SOLVENT  
(ORGANIC (W) SOLVENT)

L3 3 POLYMER AND LINKER AND PROTEIN AND ORGANIC SOLVENT

=> d 13 1-3 ibib abs hitrn

L3 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2003:335388 CAPLUS  
DOCUMENT NUMBER: 138:336897  
TITLE: Food spoilage amine detection colorimetric method and materials  
INVENTOR(S): Kalivretenos, Aristotle G.  
PATENT ASSIGNEE(S): University of Maryland, Baltimore County, USA  
SOURCE: PCT Int. Appl., 63 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003036260	A2	20030501	WO 2002-US34124	20021025
WO 2003036260	A3	20031113		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003104609	A1	20030605	US 2001-983743	20011025
PRIORITY APPLN. INFO.:			US 2001-983743	A 20011025

OTHER SOURCE(S): MARPAT 138:336897

AB Compds. linked to a solid support through a divalent **linker** moiety are disclosed. In particular, compds. such as 1-hydroxybenzotriazole-6-carboxylic acid are directly linked to the support under mild conditions (i.e., in aq. or **org. solvents** at neutral pH and at room temp.). The **polymer** bound 1-hydroxybenzotriazole-6-carboxylic acid can be used for the derivatization of amines as well as for single step amino group modification of **proteins**, peptides, and amines via acylation or sulfonylation reactions. A flow through device and method for the single step amino group modifications of **proteins**, peptides, and amines is disclosed. Also disclosed is a flow through device for the detection of amines in a sample. Addnl., a device and method for the detection of amines in a sample using 1-hydroxybenzotriazole-6-carboxylic acid are disclosed. In a preferred embodiment, the device is used to detect the presence of amines in a spoiled meat product. Diagnostic kits for detecting the presence of amines are also disclosed.

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2002:674587 CAPLUS  
DOCUMENT NUMBER: 137:197872

TITLE: Process for preparing peptide nucleic acid probe using polymeric photoacid generator  
 INVENTOR(S): Kim, Min-hwan; Kim, Do-yun; Moon, Bong-seok; Park, Jae-chan; Kim, Young-hee; Seo, Seung-joo  
 PATENT ASSIGNEE(S): Samsung Electronics Co., Ltd., S. Korea  
 SOURCE: U.S. Pat. Appl. Publ., 11 pp., Cont.-in-part of U.S. 6,359,125.  
 CODEN: USXXCO  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 2  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002122874	A1	20020905	US 2002-73071	20020207
US 6660479	B2	20031209		
KR 2001001577	A	20010105	KR 1999-20899	19990607
WO 2000075372	A1	20001214	WO 2000-KR590	20000607
W: CN, JP, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
US 6359125	B1	20020319	US 2001-762611	20010207
PRIORITY APPLN. INFO.: KR 1999-20899 A 19990607				
WO 2000-KR590 W 20000607				
US 2001-762611 A2 20010207				

AB The invention concerns a process for prep. arrays of oligopeptide nucleic acid probes immobilized on a solid matrix by employing polymeric photoacid generator. Arrays of peptide nucleic acid probes of the invention are prepd. by the steps of: (i) derivatizing the surface of a solid matrix with aminoalkyloxysilane in alc. and attaching a **linker** with acid-labile protecting group on the solid matrix; (ii) coating the solid matrix with polymeric photoacid generator(PAG); (iii) exposing the solid matrix thus coated to light to generate acid for eliminating acid-labile protecting group; (iv) washing the solid matrix with alk. soln. or **org. solvent** and removing residual polymeric photoacid generator; and, (v) attaching a monomeric peptide nucleic acid with acid-labile protecting group to the solid matrix, and repeating the previous Steps of (ii) to (v). In accordance with the present invention, neutral peptide nucleic acid probes, as the promising substitute for conventional neg.-charged oligonucleotide probes, can be prepd. by employing polymeric photoacid generator in a simple and efficient manner, while overcoming the problems confronted in the prior art DNA chip fabrication using PR system and PPA system.

L3 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 2002:466317 CAPLUS  
 DOCUMENT NUMBER: 137:43912  
 TITLE: Acid-labile isotope-coded extractant (ALICE) and its use in quantitative mass spectrometric analysis of **protein** mixtures  
 INVENTOR(S): Qiu, Yongchang; Wang, Jack H.; Hewick, Rodney M.  
 PATENT ASSIGNEE(S): Genetics Institute, Inc., USA  
 SOURCE: PCT Int. Appl., 44 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

WO 2002048717 A2 20020620 WO 2001-US50745 20011022  
WO 2002048717 A3 20030501

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002043385 A5 20020624 AU 2002-43385 20011022

US 2002164809 A1 20021107 US 2001-45170 20011022

EP 1330654 A2 20030730 EP 2001-989278 20011022

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: US 2000-242643P P 20001023  
WO 2001-US50745 W 20011022

AB The invention concerns a method which provides novel compds., termed acid-labile isotope-coded extractants (ALICE), for quant. mass spectrometric anal. of **protein** mixts. The compds. contain a thiol-reactive group that is used to capture cysteine-contg. peptides from all peptide mixts., an acid-labile **linker**, and a non-biol. **polymer**. One of the two acid-labile **linkers** is isotopically labeled and therefore enables the direct quantitation of peptides/**proteins** through mass spectrometric anal. Because no functional **proteins** are required to capture peptides, a higher percentage of **org. solvent** can be used to solubilize the peptides, particularly hydrophobic peptides, through the binding, washing and eluting steps, thus permitting much better recovery of peptides. Moreover, since the peptides are covalently linked to the non-biol. **polymer** (ALICE), more stringent washing is allowed in order to completely remove non-specifically bound species. Finally, peptides captured by ALICE are readily eluted from the **polymer** support under mild acid condition with high yield and permit the direct down stream mass spectrometric anal. without any further sample manipulation. In combination with our novel dual column two dimensional liq. chromatog.- mass spectrometry (2D-LC-MS/MS) design, the ALICE procedure proves to a general approach for quant. mass spectrometric anal. of **protein** mixts. with better dynamic range and sensitivity.

=> s pmma and peg and hirudin

29865 PMMA

108 PMMAS

29871 PMMA

(PMMA OR PMMAS)

27463 PEG

992 PEGS

27889 PEG

(PEG OR PEGS)

2752 HIRUDIN

86 HIRUDINS

2757 HIRUDIN

(HIRUDIN OR HIRUDINS)

L4 1 PMMA AND PEG AND HIRUDIN

=> d 14 ibib abs hitrn

L4 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:701043 CAPLUS

DOCUMENT NUMBER: 129:306544

TITLE: **PMMA** membranes with polyethylene  
 glycol-bound physiologically active substances  
 INVENTOR(S): Bucha, Elke; Nowak, Goetz  
 PATENT ASSIGNEE(S): Max-Planck-Gesellschaft zur Foerderung der  
 Wissenschaften e.V., Germany  
 SOURCE: Ger. Offen., 10 pp.  
 CODEN: GWXXBX  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 19715504	A1	19981015	DE 1997-19715504	19970414
DE 19715504	C2	20001026		
WO 9846648	A1	19981022	WO 1998-EP2183	19980414
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9875254	A1	19981111	AU 1998-75254	19980414
EP 975680	A1	20000202	EP 1998-922710	19980414
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001527539	T2	20011225	JP 1998-543496	19980414
US 2002028201	A1	20020307	US 1999-417534	19991014
PRIORITY APPLN. INFO.: DE 1997-19715504 A 19970414 WO 1998-EP2183 W 19980414				

AB A **PMMA** membrane or copolymer membrane with **PEG**-bound  
 physiol. active substances is used as a functional antidote (e.g., contg.  
 antibodies, enzymes, anticoagulants, tumor markers) in extracorporeal  
 therapeutic systems, e.g., blood dialysis systems. The **PEG**  
 -bound active substance binds to the membrane. In examples,  
**hirudin** anticoagulants, **hirudin** monoclonal antibodies,  
 monoclonal antibodies to tumor necrosis factors, and urease were bound to  
**PEG** and utilized in **PMMA** capillary dialysis systems for  
 blood treatment.

=> s hydrolysis and bond and polymer and linker and protein and solvent  
 394721 HYDROLYSIS  
 3100 HYDROLYSES  
 395561 HYDROLYSIS  
 (HYDROLYSIS OR HYDROLYSES)  
 472539 BOND  
 239421 BONDS  
 611317 BOND  
 (BOND OR BONDS)  
 931714 POLYMER  
 783177 POLYMERS  
 1269147 POLYMER  
 (POLYMER OR POLYMERS)  
 14504 LINKER  
 3402 LINKERS  
 16439 LINKER  
 (LINKER OR LINKERS)  
 1584147 PROTEIN

1089521 PROTEINS  
1834710 PROTEIN  
(PROTEIN OR PROTEINS)  
591784 SOLVENT  
295003 SOLVENTS  
746315 SOLVENT  
(SOLVENT OR SOLVENTS)

L5 0 HYDROLYSIS AND BOND AND POLYMER AND LINKER AND PROTEIN AND SOLVENT

=> s bond and polymer and protein and linker and solvent

472539 BOND  
239421 BONDS  
611317 BOND  
(BOND OR BONDS)  
931714 POLYMER  
783177 POLYMERS  
1269147 POLYMER  
(POLYMER OR POLYMERS)  
1584147 PROTEIN  
1089521 PROTEINS  
1834710 PROTEIN  
(PROTEIN OR PROTEINS)  
14504 LINKER  
3402 LINKERS  
16439 LINKER  
(LINKER OR LINKERS)  
591784 SOLVENT  
295003 SOLVENTS  
746315 SOLVENT  
(SOLVENT OR SOLVENTS)

L6 2 BOND AND POLYMER AND PROTEIN AND LINKER AND SOLVENT

=> d 16 1-2 ibib abs hitrn

L6 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 2002:927682 CAPLUS  
DOCUMENT NUMBER: 138:1971  
TITLE: Cleavable surfactants and methods of use for sample preparation  
INVENTOR(S): Caprioli, Richard M.; Porter, Ned A.; Norris, Jeremy L.  
PATENT ASSIGNEE(S): Vanderbilt University, USA  
SOURCE: PCT Int. Appl., 74 pp.  
CODEN: PIXXD2  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002097393	A2	20021205	WO 2002-US16640	20020528
WO 2002097393	A3	20030313		
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,			

CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,  
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-294337P P 20010529

OTHER SOURCE(S): MARPAT 138:1971

AB The invention concerns cleavable compns. and methods of use esp. in MALDI MS anal. of hydrophobic **proteins**. Accordingly, the present invention provides, in part, compns. and methods including, but not limited to: novel cleavable surfactants and methods for prep. cleavable surfactants and using them in proteomic anal. including for matrix assisted laser desorption ionization mass spectrometry (MALDI MS). Certain compns. disclosed herein include the surprising properties of being a surfactant that yields one or more analyte assisting mols. upon cleavage including a MALDI matrix compn. and a volatile **solvent**.

L6 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:118095 CAPLUS

DOCUMENT NUMBER: 114:118095

TITLE: Process for covalent surface modification of hydrophobic **polymers** and affinity membranes made therefrom

INVENTOR(S): Azad, A. R. M.; Goffe, Randal A.

PATENT ASSIGNEE(S): Sepracor, Inc., USA

SOURCE: PCT Int. Appl., 145 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

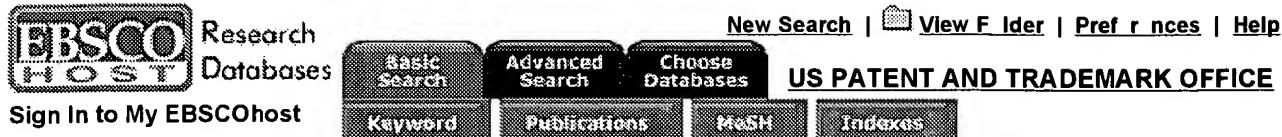
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9004609	A1	19900503	WO 1989-US4620	19891016
W: AU, BB, BG, BR, DK, FI, HU, JP, KR, LK, MC, MG, MW, NO, RO, SD, SU RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG				
AU 8945292	A1	19900514	AU 1989-45292	19891016
EP 520979	A1	19930107	EP 1989-912861	19891016
EP 520979	B1	19990113		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 175681	E	19990115	AT 1989-912861	19891016
US 5462867	A	19951031	US 1994-190732	19940202
PRIORITY APPLN. INFO.:			US 1988-258406	19881017
			WO 1989-US4620	19891016
			US 1992-956432	19921001

AB The title process comprises e.g. (1) contacting a hydrophobic **polymer** with a soln. of a 1st nonsolubilizing **solvent** and a **linker** for sufficient time to form a covalent **bond** between the **linker** for sufficient time to form a covalent **bond** between the **linker** and a functionalizable side chain of the hydrophobic **polymer**; (2) contacting the reacted **polymer** of 1 with a soln. of a 2nd nonsolubilizing **solvent** and a mammol. for sufficient time to covalently bind the macromol. to the covalently bonded **linker** moiety. The above product may then be reacted with a reagent capable of producing active sites on the covalently bonded macromol., followed by reaction the produced active sites with a ligand. The process is conveniently carried out under heterogeneous conditions and proceeds with without a significant redn. in microporous membrane pore dimensions or hydraulic permeability of the original unmodified membrane. Also provided are a 4-component dope compn. and a spinnerette assembly useful for the manuf. of the **polymers** of the invention. Thus, poly(ether sulfone)/poly(ethylene oxide) hollow fiber membranes were prep., treated with ethylene glycol diglycidyl

ether, and then reacted with hydroxyethyl cellulose. The resulting fibers were activated with 2-fluoro-1-methylpyridinium p-toluenesulfonate and then reacted with antibodies to blood coagulation factor VIII. The resulting affinity membrane was used to purify factor VIII 115-fold from a factor VIII conc. Details of manuf. of the **polymers** of the invention are given, as are schematic diagrams of the spinnerette assembly.



◀ 1 ▶ [Result List](#) | [Refine Search](#) [Print](#) [E-mail](#)

[Save](#) [Add to folder](#)

Formats: [Citation](#)

**Title:** **Immobilization of poly(ethylene glycol) or its sulfonate onto polymer surfaces by ozone oxidation.**

**Author(s):** [Ko YG](#); [Kim YH](#); [Park KD](#); [Lee HJ](#); [Lee WK](#); [Park HD](#); [Kim SH](#); [Lee GS](#); [Ahn DJ](#)

**Author's Address:** Biomaterials Research Center, Korea Institute of Science and Technology, Cheongryang, Seoul, South Korea.

**Source:** [Biomaterials](#) [Biomaterials] 2001 Aug; 22 (15), pp. 2115-23.

**Pub. Type:** Journal Article

**Language:** English

**Journal Info:** *Country of Publication:* England *NLM ID:* 8100316 *ISSN:* 0142-9612 *Subsets:* IM

**MeSH Terms:** [Biocompatible Materials/\\*chemistry](#)

[Blood Platelets/\\*cytology](#)

[Oxygen/\\*metabolism](#)

[Ozone/\\*metabolism](#)

[Polyethylene Glycols/\\*chemistry](#)

[Polymers/\\*chemistry](#)

[Polymethyl Methacrylate/\\*chemistry](#)

[Blood Platelets/chemistry](#); [Blood Platelets/metabolism](#); [Cell](#)

[Adhesion](#); [Human](#); [Microscopy, Atomic Force](#); [Protein Binding](#); [Spectroscopy](#).

[Fourier Transform Infrared](#); [Support, Non-U.S. Gov't](#); [Time Factors](#)

**Abstract:** A novel surface modification method has been developed to improve biocompatibility of polymeric biomaterials. This approach involves ozonation and then followed by graft polymerization with acrylates containing **PEG**, sulfonated **PEG** or by coupling of **PEG** derivatives. All the reactions were confirmed by ATR FT-IR and ESCA. The degree of ozonation measured by the iodide method was dependent on the ozone permeability of the polymers used. Surface hydrophilicity was investigated by measuring the contact angles. Ozonation itself yielded a slight increase in hydrophilicity and a decrease in platelet adhesion, but **PEG** immobilization showed a significant effect on surface hydrophilicity and platelet adhesion to confirm well-known **PEG**'s passivity which minimize the adhesion of blood components on polymer surfaces. Both graft polymerization and coupling were effective for PU. In contrast, only grafting gave enough yields for **PMMA** and silicone. Platelet adhesion results demonstrated that all **PEG** modified surfaces adsorbed lower platelet adhesion than untreated or ozonated ones. Polymers coupled with sulfonated **PEG** exhibited the lowest platelet adhesion when compared with control and **PEG** coupled ones by virtue of the synergistic effect of non-adhesive **PEG** and negatively charged SO<sub>3</sub> groups. This **PEG** or sulfonated **PEG** immobilization technology using ozonation is relatively simple for introducing uniform surface modification and therefore very useful for practical application of blood contacting medical devices.

**CAS Registry No.:** 0 (Biocompatible Materials)

0 (Polyethylene Glycols)

0 (Polymers)

10028-15-6 (Ozone)

7782-44-7 (Oxygen)

9011-14-7 (Polymethyl Methacrylate)

**Entry Date(s):** Date Created: 20010702 Date Completed: 20011207

**Citation ID(s):** PMID: 11432591 Medline UI: 21325153

**Persistent link to this record:** <http://search.epnet.com/direct.asp?an=11432591&db=cmedm&tg=PM>

**Database:** MEDLINE

---

**Formats:**  [Citation](#)

© 2004 EBSCO Publishing. [Privacy Policy](#) - [Terms of Use](#)



◀ 1 of 1 ▶ [Result List](#) | [Refine Search](#) [Print](#) [E-mail](#)  
[Save](#) [Add to folder](#)

[Folder is empty.](#)

Formats: [Citation](#)

**Title:** Thermoprecipitation of streptavidin via oligonucleotide-mediated self-assembly with poly(N-isopropylacrylamide).

**Author(s):** Fong RB; Ding Z; Long CJ; Hoffman AS; Stayton PS

**Author's Address:** Department of Bioengineering, University of Washington, Seattle, Washington 98195, USA.

**Source:** [Bioconjugate chemistry](#) [Bioconjug Chem] 1999 Sep-Oct; 10 (5), pp. 720-5.

**Pub. Type:** Journal Article

**Language:** English

**Journal Info:** *Country of Publication:* UNITED STATES *NLM ID:* 9010319 *ISSN:* 1043-1802  
*Subsets:* IM

**MeSH Terms:** [Acrylamides/\\*chemical synthesis](#)  
[Oligonucleotides/\\*chemistry](#)  
[Streptavidin/\\*analogs & derivatives](#)  
[Streptavidin/\\*chemistry](#)  
[Acrylamides/chemistry; Alkaline](#)  
[Phosphatase/chemistry; Anions; Biotin/chemistry; Biotinylation; Chemistry, Physical; Chromatography, Affinity/methods; Chromatography, Ion Exchange; DNA/chemistry; Heat; Indicators and Reagents; Oligonucleotides/Isolation & purification; Precipitation; Solutions; Streptavidin/chemical synthesis; Streptavidin/Isolation & purification; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.](#)

**Abstract:** A versatile strategy has been developed for selectively and sequentially isolating targets in a liquid-phase affinity separation environment. The strategy uses a recently developed approach for joining together molecules in linkages that are defined by the complementary pairing of oligonucleotides conjugated to the different molecules [Niemeyer, C. M., Sano, T., Smith, C. L., and Cantor, C. R. (1994) Nucleic Acids Res. 22, 5530-9]. In the work presented here, streptavidin was noncovalently coupled with the temperature-responsive poly(N-isopropylacrylamide) [poly(NIPAAm)] through the sequence-specific hybridization of oligonucleotides conjugated to the **protein** and **polymer**. A 20-mer oligonucleotide was covalently linked through a heterobifunctional **linker** to a genetically engineered streptavidin variant that contained a unique cysteine residue at the **solvent-accessible** site Glu 116. The complementary DNA sequence was conjugated to the end of a linear ester-activated poly(NIPAAm). The two conjugates were allowed to self-assemble in solution via hybridization of their complementary DNA sequences. The streptavidin-poly(NIPAAm) complex could be used to affinity-precipitate radiolabeled biotin or biotinylated alkaline phosphatase above 32 degrees C through the thermally induced phase separation activity of the poly(NIPAAm). The streptavidin-oligo species could then be reversibly separated from the precipitated **p lym r**-oligo conjugate and recycled by lowering the salt concentration, which results in denaturation of the short double-stranded DNA connection. The use of oligonucleotides to couple **polymer** to streptavidin allows for selective precipitation of different polymers and streptavidin complexes based on the sequence-specific

hybridization of their oligonucleotide appendages.

**Grant Information:** R01GM53771A GM NIGMS

**CAS Registry No.:** 0 (Acrylamides)

0 (Anions)

0 (Indicators and Reagents)

0 (Oligonucleotides)

0 (Solutions)

0 (streptavidin-poly(N-isopropylacrylamide))

58-85-5 (Biotin)

9007-49-2 (DNA)

9013-20-1 (Streptavidin)

EC 3.1.3.1 (Alkaline Phosphatase)

**Revision Date:** 20001218

**Entry Date(s):** Date Created: 19991119 Date Completed: 19991119

**Citation ID(s):** PMID: 10502336 Medline UI: 99433843

**Persistent link to this record:** <http://search.epnet.com/direct.asp?an=10502336&db=cmedm&tg=PM>

**Database:** MEDLINE

---

**Formats:**  [Citation](#)

© 2004 EBSCO Publishing. [Privacy Policy - Terms of Use](#)

L Number	Hits	Search Text	DB	Time stamp
1	2	"9846648"	USPAT; EPO; JPO; DERWENT	2004/01/20 18:16
2	4	gotz and n wak	USPAT; EPO; JPO; DERWENT	2004/01/20 18:17
3	13	elke and bucha	USPAT; EPO; JPO; DERWENT	2004/01/20 18:19
4	16339	pmma	USPAT; EPO; JPO; DERWENT	2004/01/20 18:19
5	356	pmma and peg	USPAT; EPO; JPO; DERWENT	2004/01/20 18:20
6	128	(pmma and peg) and protein	USPAT; EPO; JPO; DERWENT	2004/01/20 18:20
7	62	((pmma and peg) and protein) and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:20
8	58	((pmma and peg) and protein) and methanol) and separat\$3	USPAT; EPO; JPO; DERWENT	2004/01/20 18:25
9	75	polymer adj5 linker adj5 polymer and separat\$3	USPAT; EPO; JPO; DERWENT	2004/01/20 19:01
10	2	(polymer adj5 linker adj5 polymer and separat\$3) and PMMA and PEG	USPAT; EPO; JPO; DERWENT	2004/01/20 18:26
11	20	polymer adj5 linker adj5 polymer and separat\$3 and organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:34
12	0	polymer adj5 linker adj5 polymer adj5 organic adj solvent and separat\$3	USPAT; EPO; JPO; DERWENT	2004/01/20 18:34
13	0	polymer adj5 linker adj5 polymer adj5 organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:34
14	0	polymer adj5 linker adj5 polymer adj10 organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:36
15	4	polymer adj5 linker adj5 protein and separat\$3 and organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:34
16	0	polymer adj5 linker adj5 protein adj10 organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:37
17	0	separating adj5 polymer adj5 protein adj5 linker adj5 organic	USPAT; EPO; JPO; DERWENT	2004/01/20 18:38
18	0	polymer adj5 protein adj5 linker adj5 organic	USPAT; EPO; JPO; DERWENT	2004/01/20 18:38
19	0	polymer adj5 linker adj5 protein adj5 organic	USPAT; EPO; JPO; DERWENT	2004/01/20 18:39
20	0	peg adj5 hirudin adj5 pmma and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:40
21	1	peg and hirudin and pmma and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:41
22	0	p lymethylmethacrylate adj5 polyethylene adj glicol adj5 protein and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:41
23	0	p lymethylmethacrylate adj5 polyethylene adj glicol adj5 protein and solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:42

24	0	polymethylmethacrylate adj5 polyethylene adj glycol adj5 protein and solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:43
25	236	polymethylmethacrylate and polyethylene adj glycol and protein and solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:43
26	208	polymethylmethacrylate and polyethylene adj glycol and protein and solvent and process	USPAT; EPO; JPO; DERWENT	2004/01/20 18:57
27	179	(polymethylmethacrylate and polyethylene adj glycol and protein and solvent and process) and separat\$3	USPAT; EPO; JPO; DERWENT	2004/01/20 18:44
29	6	((polymethylmethacrylate and polyethylene adj glycol and protein and solvent and process) and separat\$3) and methanol) and hirudin	USPAT; EPO; JPO; DERWENT	2004/01/20 18:44
28	87	((polymethylmethacrylate and polyethylene adj glycol and protein and solvent and process) and separat\$3) and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:46
30	119	polymethylmethacrylate and polyethylene adj glycol and protein and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:57
31	5448	polymethylmethacrylate same polyethylene adj glycol same protein same methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:58
32	0	polymethylmethacrylate same polyethylene adj glycol same protein same methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:58
33	0	polymethylmethacrylate same polyethylene adj glycol same protein same solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 18:58
34	0	polymethylmethacrylate adj10 polyethylene adj glycol adj10 protein adj10 metanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:59
35	0	polymethylmethacrylate adj10 polyethylene adj glycol adj10 protein and metanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:59
36	0	polymethylmethacrylate adj10 polyethylene adj glycol adj10 protein and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:59
37	4	polymethylmethacrylate adj10 polyethylene adj glycol and protein and methanol	USPAT; EPO; JPO; DERWENT	2004/01/20 18:59
38	0	polymer adj5 linker adj5 protein adj10 organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 19:01
39	0	polymer adj5 linker adj10 protein adj10 organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 19:01
40	4	polymer adj5 linker adj10 protein and organic adj solvent	USPAT; EPO; JPO; DERWENT	2004/01/20 19:02